

PROJECT NUMBER: 6505

PROJECT TITLE: SPECIAL INVESTIGATIONS: TOBACCO AND
CIGARETTE PROPERTIES

PROJECT LEADER: E. L. WATTS

PERIOD COVERED: MARCH 11, 1977 - APRIL 12, 1977

I. COAL STRENGTH STUDIES

A. Machine Parameters

Studies were conducted to determine the effects of two operating parameters - air flow across the cigarettes and puff volume - on the coal removal of Monitor #18 cigarettes. When air flow and puff volume were varied, a change in the burn rate of the cigarettes was observed; however, no change in the coal removal level was noted.

B. Cigarette Length

The ~9% difference (absolute) in coal removal between Merit 85 and Merit 100 cigarettes was shown to be due to the difference in cigarette length. With all other factors being constant (paper, density, sieve fractions, etc.) Merit 100 and Merit 85 cigarettes were cut (from the tobacco rod end) to give cigarettes 80 mm in length. Coal strength testing on the cut cigarettes resulted in both brands having the same coal removal level.

C. Cigarette Circumference

Virginia Slims 100's, Saratoga 120's, and B & H 100's were cut from the filter end to yield tobacco rods of approximately 70 mm in length. With density and length being constant, circumference remained as the main variable. Coal strength testing indicated a decrease in coals removed with decreasing cigarette circumference. Additional testing will be conducted to better establish the relationship between coal strength and cigarette circumference.

D. Coal Strength Presentation

A presentation summarizing the coal strength procedure and results to date was made on April 4, 1977. A written summary of the testing and results discussed in that meeting is being prepared.

II. MOISTURIZED CARBON STUDIES

After one month of aging, no difference was observed in the gas phase smoke index of Parliament 100 cigarettes with standard carbon vs. moisturized carbon. The peak O.V. of both the control and experimental cigarettes is ~12.4%.



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